Risk Assessment of the Fungicide Talius with the Active Substances Proquinazid

Line Emilie Sverdrup a*, Christine Bjørge b, Ole Martin Eklo c, Merete Grung d, Torsten Källqvist d, Ingeborg Klingen c, Marit Låg e, Edgar Rivedal f, Erik Ropstad g and Steinar Øvrebø h

a Norwegian Scientific Committee for Food Safety (VKM), Det Norske Veritas, Norway.
b Norwegian Scientific Committee for Food Safety (VKM), Norwegian Environment Agency, Norway.
c Norwegian Scientific Committee for Food Safety (VKM), Norwegian Institute of Bioeconomy Research, Norway.
d University of Oslo / Norwegian Scientific Committee for Food Safety (VKM), Norwegian Institute for Water Research, Norway.
e Norwegian Scientific Committee for Food Safety (VKM), Norwegian Institute of Public Health (FHI), Norway.
f Norwegian Scientific Committee for Food Safety (VKM), Oslo University Hospital, Norway.
g Norwegian Scientific Committee for Food Safety (VKM), Norwegian University of Life Sciences, Norway.
h Norwegian Scientific Committee for Food Safety (VKM), National Institute of Occupational Health, Norway.

Authors’ contributions

This work was carried out in collaboration between all authors. The opinion has been assessed and approved by the Panel on Plant Protection Products of VKM. All authors read and approved the final manuscript.

ABSTRACT

Talius is a new fungicide containing the new active substance proquinazid. Talius is a fungicide against cereal powdery mildew (Blumeria graminis) in cereals and grass seed. The risk assessment was finalized at a meeting May 29, 2012, by VKM’s Scientific Panel on plant protection products (VKM). VKM is in particular asked by the Norwegian Food Safety Authority to look at the following:

- The human health risk for operators related to the properties of the active substance and the product.
- The effects seen in studies on dog and if these effects warrant a classification for chronic toxicity.
- The oncogenic effects in liver and thyroid.
- The establishment of reference values (ADI, AOEL and ARfD).
- Dermal absorption.
- The classification and labelling of the active substances.
and the product. • The fate and behaviour in the environment and the ecotoxical effects and risks with regard to the properties of Talius and proquinazid.

VKM’s conclusion is as follows:

Health:

VKM concluded that a less serious effect (dose-related ocular discharge increase) was seen in dogs in both the 90 days study and 1 year-study. The opinion of the Panel is that cholangiocarcinomas is relevant for the classification of cancer and VKM is concerned about these effects.

VKM proposes an NOAEL of 1.2 mg/kg bw/day for proquinazid based on the 2 year study with rats. VKM support:

• The proposed ADI value of 0.01 mg/kg bw/day. • The proposed AOEL value of 0.02 mg/kg bw/day.
• The proposed ARfD value of 0.2 mg/kg bw/day. • The proposed classification from The Norwegian Food Safety Authority.

VKM supports The Norwegian Food and Safety Authority calculations for dermal absorption under Norwegian directions for use (2.6 times higher dilution).

Environment:

Proquinazid can be persistent under prevailing conditions in Norway and the Panel considers the results from the Finnish PEC calculator to be relevant for Norwegian conditions and expects that repeated annual applications may cause accumulation in soil up to an equilibrium level under Norwegian conditions. The potential for groundwater contamination from leaching of proquinazid and its metabolites are low. There are minimal risks for toxic effects of proquinazid to terrestrial organisms, sediment dwelling organisms, aquatic plants, and algae with the proposed application regime.

For fish and invertebrates minimal risks are calculated provided that a 3 m buffer zone is used.

Keywords: VKM; assessment; Norwegian Scientific Committee for Food Safety; fungicide.

Available: https://vkm.no/download/18.175083d415c86c573b5d793e/1500738865687/4ef2505846.pdf

ISBN: 978-82-8259-062-4

NOTE:

This work was carried out in collaboration between all authors. The opinion has been assessed and approved by the Panel on Plant Protection Products of VKM. All authors read and approved the final manuscript.

Competence of VKM experts: Persons working for VKM, either as appointed members of the Committee or as external experts, do this by virtue of their scientific expertise, not as representatives for their employers or third party interests. The Civil Services Act instructions on legal competence apply for all work prepared by VKM.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

© 2022 Sverdrup et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.